Please amend the claim list according to the following:

1. (withdrawn) A composite core for an aluminum conductor composite core reinforced cable comprising:

a. a plurality of fibers from at least one fiber type embedded in one or more matrix materials; and

b. wherein the composite core is a unitary core flexible enough to be wound on a transportation wheel.

2. (withdrawn) A composite core according to claim 1, wherein the composite core has at least 50% fiber to resin volume fraction, an operating capability above 100° C, a modulus of elasticity at or above 14 Msi, a coefficient of thermal expansion at or above -0.7×10^{-6} m/m/° C, and a tensile strength within the range of about 160 Ksi to about 380 Ksi.

3. (withdrawn) A composite core according to claim 1, wherein the fiber type is selected one of carbon, Kevlar, basalt, glass, aramid, boron, ceramic, liquid crystal fibers, high performance polyethylene, carbon nanofibers, or carbon nanotubes.

4. (withdrawn) A composite core according to claim 1, wherein the matrix material is one of a ceramic, a thermosetting resin, or a thermoplastic resin.

5. (withdrawn) A composite core according to claim 1, wherein one or more of the fibers have a 0° orientation.

6. (withdrawn) A composite core according to claim 1, wherein two or more of the fibers have two or more orientations.

7. (withdrawn) A composite core according to claim 1, wherein one or more of the fibers are twisted.

8. (withdrawn) A composite core according to claim 1, wherein one or more of the fibers are helically placed around the core.

9. (withdrawn) A composite core according to claim 8, wherein the fibers are placed at an angle to a longitudinal axis of the composite core.

10. (withdrawn) A composite core according to claim 1, wherein two or more of the fibers are interlaced.

11. (withdrawn) A composite core according to claim 1, wherein two or more of the fibers are braided.

12. (withdrawn) A composite core according to claim 1, wherein the composite core comprises a concentric core having an inner layer and at least one outer layer.

13. (withdrawn) A composite core according to claim 12, wherein the inner layer is made from a first fiber type and at least one outer layer is made from a second fiber type.

14. (withdrawn) A composite core according to claim 13, wherein the inner layer is made from a carbon fiber and matrix composite and the outer layer is made from a glass fiber and matrix composite.

15. (withdrawn) A composite core according to claim 12, wherein the inner layer is a first hybridized composite.

16. (withdrawn) A composite core according to claim 12, wherein at least one outer layer is a second hybridized composite.

17. (withdrawn) A composite core according to claim 1, wherein the composite core comprises a first section and at least one other section.

18. (withdrawn) A composite core according to claim 17, wherein the first section is made from a first fiber type and at least one other section is made from a second fiber type.

19. (withdrawn) A composite core according to claim 18, wherein the first section is made from a carbon fiber and matrix composite and at least one other section is made from a glass fiber and matrix composite.

20. (withdrawn) A composite core according to claim 17, wherein the first section is a first hybridized composite.

21. (withdrawn) A composite core according to claim 17, wherein at least one other section is a second hybridized composite.

22. (withdrawn) A composite core for an aluminum conductor composite core reinforced cable comprising:

a. a plurality of fibers from at least one fiber type embedded in one or more matrix materials; and

b. wherein the fiber type is selected from one of Kevlar, basalt, glass, aramid, boron, liquid crystal fibers, high performance polyethylene.

23. (withdrawn) A composite core according to claim 22, wherein the composite core is a unitary core flexible enough to be wound on a transportation wheel.

24. (withdrawn) A composite core according to claim 22, wherein the composite core has at least 50% fiber to resin volume fraction, an operating capability above 100° C, a modulus of elasticity at or above 14 Msi, a coefficient of thermal expansion at or above ~0.7 x 10^{-6} m/m/° C, and a tensile strength within the range of about 160 Ksi to about 380 Ksi.

25. (withdrawn) A composite core according to claim 22, wherein the matrix material is one of a ceramic, a thermosetting resin, or a thermoplastic resin.

26. (withdrawn) A composite core according to claim 22, wherein one or more of the fibers are 0° orientation.

27. (withdrawn) A composite core according to claim 22, wherein two or more of the fibers have two or more directions.

28. (withdrawn) A composite core according to claim 22, wherein one or more of the fibers are twisted.

29. (withdrawn) A composite core according to claim 22, wherein one or more of the fibers are helically placed around the core.

30. (withdrawn) A composite core according to claim 29, wherein the fibers are placed at an angle to a longitudinal axis of the composite core.

31. (withdrawn) A composite core according to claim 22, wherein two or more of the fibers are interlaced.

32. (withdrawn) A composite core according to claim 22, wherein two or more of the fibers are braided.

33. (withdrawn) A composite core according to claim 22, wherein the composite core comprises a concentric core having an inner layer and at least one outer layer.

34. (withdrawn) A composite core according to claim 33, wherein the inner layer is made from a first fiber type and at least one outer layer is made from a second fiber type.

35. (withdrawn) A composite core according to claim 34, wherein the inner layer is made from a carbon fiber and matrix composite and the outer layer is made from a glass fiber and matrix composite.

36. (withdrawn) A composite core according to claim 33, wherein the inner layer is a first hybridized composite.

37. (withdrawn) A composite core according to claim 33, wherein at least one outer layer is a second hybridized composite.

38. (withdrawn) A composite core according to claim 22, wherein the composite core comprises a first section and at least one other section.

39. (withdrawn) A composite core according to claim 38, wherein the first section is made from a first fiber type and at least one other section is made from a second fiber type.

40. (withdrawn) A composite core according to claim 39, wherein the first section is made from a carbon fiber and matrix composite and at least one other section is made from a glass fiber and matrix composite.

41. (withdrawn) A composite core according to claim 38, wherein the first section is a first hybridized composite.

42. (withdrawn) A composite core according to claim 38, wherein at least one other section is a second hybridized composite.

43. (withdrawn) A composite core for an aluminum conductor composite core reinforced cable comprising a plurality of fibers selected from two or more fiber types embedded in one or more matrix materials.

44. (withdrawn) A composite core according to claim 43, wherein the composite core is a unitary core flexible enough to be wound on a transportation wheel.

45. (withdrawn) A composite core according to claim 43, the composite core having at least 50% fiber to resin volume fraction and an operating capability above 100° C, a modulus of elasticity at or above 14 Msi, a coefficient of thermal expansion at or above ~0.7 x 10^{-6} m/m/° C, and a tensile strength within the range of about 160 Ksi to about 380 Ksi.

46. (withdrawn) A composite core according to claim 43, wherein the fiber type is one of carbon, Kevlar, basalt, glass, aramid, boron, liquid crystal fibers, high performance polyethylene, carbon nanofibers, or carbon nanotubes.

47. (withdrawn) A composite core according to claim 43, wherein the one or more matrix materials are one of a ceramic, a thermosetting resin, or a thermoplastic resin.

48. (withdrawn) A composite core according to claim 43, wherein one or more of the fibers are 0° orientation.

49. (withdrawn) A composite core according to claim 43, wherein two or more of the fibers have two or more directions.

50. (withdrawn) A composite core according to claim 43, wherein one or more of the fibers are twisted.

51. (withdrawn) A composite core according to claim 43, wherein one or more of the fibers are helically placed around the core.

52. (withdrawn) A composite core according to claim 51, wherein the fibers are placed at an angle to a longitudinal axis of the composite core.

53. (withdrawn) A composite core according to claim 43, wherein two or more of the fibers are interlaced.

54. (withdrawn) A composite core according to claim 43, wherein the composite core comprises a concentric core having an inner layer and at least one outer layer.

55. (withdrawn) A composite core according to claim 54, wherein the inner layer is made from first fiber type and at least one outer layer is made from a second fiber type.

56. (withdrawn) A composite core according to claim 55, wherein the inner layer is made from a carbon fiber and matrix composite and the outer layer is made from a glass fiber and matrix composite.

57. (withdrawn) A composite core according to claim 54, wherein the inner layer is a first hybridized composite.

58. (withdrawn) A composite core according to claim 54, wherein at least one outer layer is a second hybridized composite.

59. (withdrawn) A composite core according to claim 43, wherein the composite core comprises a first section and at least one other section.

60. (withdrawn) A composite core according to claim 59, wherein the first section is made from first fiber type and at least one other section is made from a second fiber type.

61. (withdrawn) A composite core according to claim 60, wherein the first section is made from a carbon fiber and matrix composite and at least one other section is made from a glass fiber and matrix composite.

62. (withdrawn) A composite core according to claim 59, wherein the first section is a first hybridized composite.

63. (withdrawn) A composite core according to claim 59, wherein at least one other section is a second hybridized composite.

64. (currently amended) A composite core for an electricity transmission cable comprising:

a. an inner core ~~a first layer~~ comprising a plurality of substantially continuous ~~longitudinally extending~~ reinforcing fibers of at least a first type, the fiber[[s]] type having a modulus of elasticity that exceeds the modulus of elasticity of glass fibers;

b. an outer core surrounding the inner core ~~at least one other layer~~ comprising a plurality of ~~longitudinally oriented and~~ substantially continuous reinforcing fibers of at least a second type ~~a different fiber type than the fibers of the first layer~~, the fibers having a modulus of elasticity of or similar to glass fibers; and

c. a cured resin matrix, wherein the fibers of the inner and the outer cores are embedded in said resin matrix; ~~that embeds that fibers of the first and the at least one other layer, wherein the resin is cured to form the composite core.~~

wherein, the fibers of the outer core are different from the fibers of the inner core and wherein, the fibers of the inner and the outer cores are oriented substantially parallel to the longitudinal axis.

65. (previously presented) A composite core according to claim 64, the composite core having at least 50% fiber to resin volume fraction to produce a composite core having a predetermined set of mechanical properties.

66. (canceled) A composite core according to claim 64, wherein the composite core is hybridized.

67. (currently amended) A composite core according to claim 64, wherein the fibers of the ~~first layer~~ inner core are carbon fibers.

68. (currently amended) A composite core according to claim 64, comprising ~~a first layer~~ an inner core comprising carbon fibers and ~~one other layer~~ an outer core comprising glass fibers.

69. (currently amended) A composite core according to claim 64, wherein the fibers of the ~~first layer~~ inner core comprise a modulus of elasticity that exceeds the modulus of elasticity of glass fibers and the fibers in the ~~at least one other layer~~ outer core comprise glass fibers.

70. (currently amended) A composite core according to claim 64, wherein the ~~first layer~~ inner core comprises carbon fibers; and the ~~at least one other layer~~ outer core comprises fibers having a modulus of elasticity of or similar to glass fibers.

71. (previously presented) A composite core according to claim 64, wherein said composite core comprises a resin having a tensile strength, a flexural strength and an elongation value that is compatible with the mechanical properties of the fibers.

72. (previously presented) A composite core according to claim 64, wherein the resin is formed with one of a ceramic, a thermosetting resin, or a thermoplastic resin.

73. (previously presented) A composite core according to claim 72, wherein the resin is adjustable to achieve a predetermined set of mechanical properties.

74. (currently amended) A composite core according to claim 64, wherein the fibers of the ~~first layer~~ inner core are high-strength fibers.

75. (currently amended) A composite core according to claim 64, wherein the fibers of the ~~at least one other layer~~ outer core are low-stiffness fibers.

76. (canceled) A composite core according to claim 64, wherein the fibers of the core are arranged having high strength fibers surrounded by low modulus fibers, wherein the high strength and low modulus fibers are embedded in a resin to form a unitary core member.

77. (currently amended) A composite core according to claim 64, ~~wherein~~ the composite core further ~~comprises~~ comprising an inner core comprising carbon fibers and an outer core comprising glass fibers the core having a carbon to glass fiber ratio; ~~a ratio of carbon to glass fibers and~~ wherein the ratio of carbon to glass fibers may be changed to vary at least one mechanical property of the composite core.

78. (currently amended) A composite core for an electrical cable comprising:

a. a first section comprising a plurality of substantially continuous ~~longitudinally extending~~ reinforcing fibers of at least a first type, the ~~fibers~~ fiber type comprising a modulus of elasticity that exceeds the modulus of elasticity of glass fibers;

b. one or more other sections that surround the first section comprising a plurality of substantially continuous ~~longitudinally extending~~ reinforcing fibers of at least a second type ~~a different fiber type than the fibers of the first section~~, the fibers comprising a modulus of elasticity of or similar to glass fibers; and

c. a cured resin matrix, wherein the fibers of the first section and the one or more other sections are embedded within the resin matrix; [[and]]

wherein, the fibers of the inner and the outer cores are oriented substantially parallel to the longitudinal axis and wherein, the fibers of the first section are different from the fibers of the one or more other sections. ~~fiber and resin matrix is cured to form the core.~~

79. (previously presented) A composite core according to claim 78, wherein the first section is formed from a plurality of carbon fibers embedded in the matrix.

80. (previously presented) A composite core according to claim 78, wherein the fibers comprising the one or more other sections are glass fibers.

81. (previously presented) A composite core according to claim 78, wherein the matrix material is one of a ceramic, thermosetting resin, or a thermoplastic resin.

82. (previously presented) A composite core according to claim 78, wherein the first section comprises a plurality of carbon fibers and at least one other fiber having a tensile strength that exceeds glass embedded in the resin.

83. (previously presented) A composite core according to claim 82, wherein the plurality of fibers comprising the one or more other sections are glass.

84. (canceled) A composite core according to claim 82, wherein the matrix material is one of a ceramic, thermosetting resin, or a thermoplastic resin.

85. (previously presented) A composite core according to claim 78, wherein the core comprises a fiber to resin ratio of at least 50% by volume fraction.

86. (canceled) A composite core according to claim 78, wherein the at least one of the different composites is a hybridized composite.

87. (currently amended) A composite core according to claim 78, ~~wherein~~ the core further comprising ~~comprises~~ a first section comprising a plurality of carbon fibers surrounded by a second section comprising a plurality of glass fibers embedded in [[a]] the resin matrix, wherein, the fiber and resin matrix [[having]] comprises a carbon/glass ratio.

88. (previously presented) A composite core according to claim 87, wherein the carbon/glass ratio may be changed.

89. (currently amended) A composite core according to claim ~~88~~ 78, wherein the resin comprises mechanical properties that can be adjusted resulting to changes to at least one mechanical property of the core.

90. (withdrawn) An aluminum conductor composite core reinforced cable, comprising:

a. a composite core comprising a plurality of fibers from at least one fiber type embedded in one or more matrix materials; and

b. at least one layer of aluminum conductor surrounding the composite core.

91. (withdrawn) A cable according to claim 90, wherein said at least one layer of aluminum conductor surrounding the composite core comprises a plurality of trapezoidal shaped aluminum segments wrapped around the core.

92. (withdrawn) A cable according to claim 90, wherein a first layer of aluminum conductors is helically wrapped around the core.

93. (withdrawn) A cable according to claim 92, wherein a next layer of aluminum conductors is helically wrapped around the core in an opposite direction from the first layer.

94. (withdrawn) An aluminum conductor composite core reinforced cable comprising:

a. a composite core comprising a plurality of fibers selected from two or more fiber types embedded in one or more matrix materials; and

b. at least one layer of aluminum conductor surrounding the composite core.

95. (withdrawn) A cable according to claim 94, wherein said at least one layer of aluminum conductor surrounding the composite core comprises a plurality of trapezoidal shaped aluminum segments wrapped around the core.

96. (withdrawn) A cable according to claim 94, wherein a first layer of aluminum conductors is helically wrapped around the core.

97. (withdrawn) A cable according to claim 96, wherein a next layer of aluminum conductors is helically wrapped around the core in an opposite direction from the first layer.

98. (withdrawn) An aluminum conductor composite core reinforced cable comprising:

a. a composite core comprising:

i. a first layer of a high-strength composite;

ii. at least one other layer of a low-stiffness composite bundled with the first layer; and

b. at least one layer of aluminum conductor surrounding the composite core.

99. (withdrawn) A cable according to claim 98, wherein said at least one layer of aluminum conductor surrounding the composite core comprises a plurality of trapezoidal shaped aluminum segments wrapped around the core.

100. (withdrawn) A cable according to claim 98, wherein a first layer of aluminum conductors is helically wrapped around the core.

101. (withdrawn) A cable according to claim 100, wherein a next layer of aluminum conductors is helically wrapped around the core in an opposite direction from the first layer.

102. (withdrawn) An aluminum conductor composite core reinforced cable comprising:

a. a composite core comprising:

i. a first section of a first composite;

ii. at least one more section of at least one different composite bundled with the first section; and

b. at least one layer of aluminum conductor surrounding the composite core.

103. (withdrawn) A cable according to claim 102, wherein said at least one layer of aluminum conductor surrounding the composite core comprises a plurality of trapezoidal shaped aluminum segments wrapped around the core.

104. (withdrawn) A cable according to claim 102, wherein a first layer of aluminum conductors is helically wrapped around the core.

105. (withdrawn) A cable according to claim 104, wherein a next layer of aluminum conductors is helically wrapped around the core in an opposite direction from the first layer.

106. (cancelled) A method of high-speed processing a composite core comprising the steps of:

a. providing a plurality of fiber tows;

b. guiding the fiber tows through a wet-out system filled with resin;

c. using a B-stage oven and two or more dies spaced apart to shape and compact the fiber tows; and

d. curing the composite core member.

107. (cancelled) A method according to claim 106, wherein at least one of the dies is a plate having a plurality of passageways wherein the orientation of passageways is determined by the desired cross section configuration of the composite core.

108. (cancelled) A method according to claim 106, wherein at least one of the dies is a bushing.

109. (cancelled) A method according to claim 106, wherein the wet-out system comprises a system to aid in wetting the fibers.

110. (cancelled) A method according to claim 106, wherein the wet-out system is a wet-out tank.

111. (cancelled) A method according to claim 106, wherein shaping and compacting the fiber tows further comprises:

a. guiding the fiber tows into a first B-stage temperature oven;

b. guiding the fiber tows into a second B-stage temperature oven comprising a plurality of bushings wherein each bushing comprises a plurality of passageways;

c. guiding the fiber tows through the bushings and the passageways; and

d. using the bushings to form the composite core.

112. (cancelled) A method according to claim 111, wherein the first B-stage temperature oven is in the range of about 150° F to about 350° F.

113. (cancelled) A method according to claim 111, wherein the second B-stage temperature oven is in the range of about 150° F to about 350° F.

114. (cancelled) A method according to claim 106, wherein the step of curing the composite core further comprises:

a. guiding the composite core through a curing oven wherein a temperature of the curing oven is in the range of about 300° F to about 400° F;

b. guiding the composite core through a cooling zone wherein a temperature of the cooling zone is in the range of about 30° F to about 100° F;

c. guiding the composite core through a post-cure oven wherein a temperature of the post-cure oven is in the range of about 300° F to about 400° F; and

d. guiding the composite core through a cooling zone wherein the core is cooled by air to bring a temperature of the core into the range of about 120° F to about 180° F.

115. (cancelled) A method according to claim 106, wherein the method of processing has a maximum processing speed above 6 ft/min.

116. (cancelled) A method according to claim 115, wherein the maximum processing speed is within the range of about 9 ft/min to about 60 ft/min.

117. (withdrawn) An electrical power transmission system, having a plurality of cables, wherein at least one cable is an aluminum conductor composite core reinforced cable comprising:

a. a composite core comprising a plurality of fibers from at least one fiber type embedded in one or more matrix materials; and

b. at least one layer of aluminum conductor surrounding the composite core.

118. (withdrawn) An electrical power transmission system according to claim 117, wherein the composite core comprises:

a. a first layer of a first composite; and

b. at least one other layer of a different composite bundled with the first layer.

119. (withdrawn) An electrical power transmission system according to claim 117, wherein the composite core comprises:

a. a first section of a first composite; and

b. at least one other section of a different composite bundled with the first section.

120. (cancelled) A method of constructing an aluminum conductor composite core reinforced cable, comprising:

a. providing a composite core comprising a plurality of fibers from at least one fiber type embedded in at least one matrix material; and

b. wrapping at least one layer of aluminum conductor around the composite core.

121. (withdrawn) An aluminum conductor composite core reinforced cable, comprising:

a. a composite core;

b. at least one layer of aluminum conductor surrounding the composite core; and

c. wherein an ampacity of the cable is 1% to 200% greater than an aluminum conductor steel reinforced (ACSR) cable of a same outside diameter.

122. (withdrawn) A composite core an aluminum conductor composite core reinforced cable comprising:

a. a plurality of fibers from at least one fiber type embedded in one or more matrix materials;

b. wherein said fibers for a first portion of fibers and a second portion of fibers; and

c. wherein the first portion of fibers has a first orientation and the second portion of fibers has a second orientation, and the first orientation is different from the second orientation.

123. (withdrawn) A composite core according to claim 122, wherein the first portion of fibers is one of unidirectional, multidirectional, interlaced, woven, or braided.

124. (withdrawn) A composite core according to claim 122, wherein the second portion of fibers is one of unidirectional, multidirectional, twisted, interlaced, woven, or braided.

125. (withdrawn) A composite core according to claim 122, wherein the first orientation is one of 0° orientation or helically placed.

126. (withdrawn) A composite core according to claim 122, wherein the second orientation is one of 0° orientation or helically placed.

127. (withdrawn) A composite core according to claim 122, wherein the composite core can be wound on a transportation wheel.

128. (withdrawn) A composite core according to claim 122, wherein the first portion of fibers is a first fiber type and the second portion of fibers is a second fiber type.

129. (withdrawn) A composite core according to claim 122, wherein the first fiber type or the second fiber type is one of carbon, Kevlar, basalt, glass, aramid, boron, liquid crystal fibers, high performance polyethylene, carbon nanofibers, or carbon nanotubes.

130. (currently amended) A composite core for an electrical cable comprising:

a. ~~a first layer~~ an inner core comprising a plurality of substantially continuous ~~longitudinally extending~~ reinforcing carbon fibers;

b. ~~at least one other layer~~ an outer core surrounding the inner core comprising a plurality of substantially continuous ~~longitudinally extending~~ reinforcing glass fibers ~~bundled with the first layer~~; and

c. a cured resin matrix ~~that embeds the fibers of~~ wherein, the fibers of the inner and the outer cores are embedded in said resin matrix; ~~first layer and the at least one other layer,~~

wherein ~~the fibers and resin are cured to form the composite core, and~~ the fibers of the inner and the outer cores are oriented substantially parallel to the longitudinal axis, and wherein the composite core comprises a set of mechanical properties.

131. (previously presented) A composite core according to claim 130, wherein the composite core has at least 50% fiber to resin volume fraction, and further comprises a ratio of carbon to glass fibers.

132. (previously presented) A composite core according to claim 131, wherein the fiber to resin volume fraction may be changed to vary the mechanical properties of the composite core.

133. (previously presented) A composite core according to claim 131, wherein the ratio of carbon fibers to glass fibers may be adjusted to vary the mechanical properties of the core.

134. (currently amended) A composite core for an electrical cable comprising:

a. a first section comprising a plurality of substantially continuous ~~longitudinally extending~~ reinforcing carbon fibers; and

b. at least one other section surrounding the first section comprising a plurality of substantially continuous ~~longitudinally extending~~ reinforcing glass fibers ~~bundled with the first layer~~; and

c. a cured resin matrix, wherein the fibers of the first section and the at least one other section are embedded within the resin matrix; ~~wherein, the fibers and resin are cured to form the core;~~

wherein, the fibers of the first section and the at least one other section are oriented substantially parallel to the longitudinal axis and wherein, the core comprises a set of mechanical properties.

135. (currently amended) A composite core according to claim 134, wherein the ~~first section~~ core has at least 50% fiber to resin volume fraction, and further comprises a ratio of carbon to glass fibers.

136. (currently amended) A composite core according to claim 135, wherein the carbon to glass fiber ratio may be adjusted to change the mechanical properties of the core.

137. (withdrawn) A composite core for an aluminum conductor composite core reinforced cable comprising a plurality of fibers selected from a fiber class wherein the composite core includes two or more fiber types from the fiber class embedded in one or more matrix materials.

138. (withdrawn) A composite core according to claim 137, wherein the fiber class is one of carbon, Kevlar, basalt, glass, aramid, boron, liquid crystal fibers, high performance polyethylene, carbon nanofibers, or carbon nanotubes.

139. (withdrawn) A composite core according to claim 137, wherein the composite core is a unitary core flexible enough to be wound on a transportation wheel.

140. (withdrawn) A composite core according to claim 137, the composite core having at least 50% fiber to resin volume fraction and an operating capability above 100° C, a modulus of elasticity at or above 14 Msi, a coefficient of thermal expansion at or above -- 0.7×10^{-6} m/m/° C, and a tensile strength within the range of about 160 Ksi to about 380 Ksi.

141. (withdrawn) A composite core according to claim 137, wherein the one or more matrix materials are one of a ceramic, a thermosetting resin, or a thermoplastic resin.

142. (withdrawn) A composite core according to claim 137, wherein one or more of the fibers are 0° orientation.

143. (withdrawn) A composite core according to claim 137, wherein one or more of the fibers are twisted.

144. (withdrawn) A composite core according to claim 137, wherein one or more of the fibers are helically placed around the core.

145. (withdrawn) A composite core according to claim 144, wherein the fibers are placed at an angle to a longitudinal axis of the composite core.

146. (withdrawn) A composite core according to claim 137, wherein two or more of the fibers are interlaced.

147. (withdrawn) A composite core according to claim 137, wherein the composite core comprises a concentric core having an inner layer and at least one outer layer.

148. (withdrawn) A composite core according to claim 147, wherein the inner layer is made from first fiber type and at least one outer layer is made from a second fiber type.

149. (withdrawn) A composite core according to claim 148, wherein the inner layer is made from a carbon fiber and matrix composite and the outer layer is made from a glass fiber and matrix composite.

150. (withdrawn) A composite core according to claim 147, wherein the inner layer is a first hybridized composite.

151. (withdrawn) A composite core according to claim 147, wherein at least one outer layer is a second hybridized composite.

152. (withdrawn) A composite core according to claim 137, wherein the composite core comprises a first section and at least one other section.

153. (withdrawn) A composite core according to claim 152, wherein the first section is made from first fiber type and at least one other section is made from a second fiber type.

154. (withdrawn) A composite core according to claim 153, wherein the first section is made from a carbon fiber and matrix composite and at least one other section is made from a glass fiber and matrix composite.

155. (withdrawn) A composite core according to claim 152, wherein the first section is a first hybridized composite.

156. (withdrawn) A composite core according to claim 152, wherein at least one other section is a second hybridized composite.

157. (canceled) A composite core for an electricity transmission cable, the core comprising:

one or more substantially continuous longitudinally extending fiber types, wherein at least one fiber type comprises a modulus of elasticity that exceeds the modulus of elasticity of glass fibers; and

a resin matrix that embeds the one or more fiber types;

wherein, the fibers and resin are cured to form the core.

158. (canceled) A composite core as claimed in claim 157 wherein, the fiber type that exceeds the modulus of elasticity of glass fibers is carbon.

159. (canceled) A composite core as claimed in claim 158, further comprising glass fibers.

160. (canceled) A composite core as claimed in claim 156 wherein, the one or more fiber types comprising the core are carbon and glass.

161. (canceled) A composite core as claimed in claim 156 wherein, the composite core comprises a resin having a tensile strength, a flexural strength and an elongation value that is compatible with the mechanical properties of the fibers.